Pre-meeting Topical Congress
Saturday, August 2—Sunday, August 3, 2008
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Microscopy AND Microanalysis

ISCA PMC Organizer: Randy Smith
MSA PMC Organizers: Larry Allard and Doug Blom

X-01 Cellular Analysis: Linking Quantitation to Structure and Function

Instructors: J. Paul Robinson, Robert M. Zucker, and Randall W. Smith

Location: **Taos Room (Additional fees apply)**
Sunday: 8:00 AM–5:00 PM

This Pre-Meeting Congress is co-presented by the International Society for Analytical Cytology (ISAC) and the Microscopy Society of America (MSA). This first collaboration with ISAC brings leading scientists from three areas, fundamental microscopy, flow cytometry and biological imaging, to discuss quantitative aspects of cellular analysis, instrumental design and determination of structure and function of cells. Through automated platforms, we have moved beyond the days when observations of cells led to reproducible analytical processes. There is now both need and opportunity to focus on the quantitative aspects of cell analysis and the handing of large amounts of data. This Congress will have both introductory and advanced lectures in a unique forum suitable for the research community, technicians, governmental and educational programs, and those wishing to expand their knowledge in this interdisciplinary growth area.

X-02 Contrast Interpretation in an Aberration-Free Environment

Instructors: Larry Allard, Doug Blom, and Jim Zuo

Location: **Brazos Room (Additional fees apply)**
Saturday: 9:00 AM–4:00 PM
Sunday: 9:00 AM–12:00 Noon

Numerous laboratories are now exploring the promise of aberration-corrected electron optics with a new generation of (S)TEM instruments. However, data interpretation at sub-Ångström resolution can be complicated by: electron channeling and contrast delocalization; amorphous surface layers in contrast formation; electron beam energy deposition during analysis; and deviations from optimal electron optical alignment, among others. This Congress will focus on the challenges of contrast interpretation, and potential strategies to mitigate their influence, including choice of instrumental parameters, hyperspectral imaging methods (e.g., exit wave reconstruction, time-resolved methods), and the tandem performance of simulation and/or complementary measurements, such as diffractive imaging or electron holography.

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